Applicant acknowledges the restriction requirement and species election requirement and respectfully responds without traverse.

IN THE CLAIMS:

Please cancel claims 1 through 14.

Please add claims 15 - 54 to read as follows:

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15. A method for improving a patient's immune response comprising reactivation of the thymus of a patient.

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16. The method of claim 15 wherein reactivation of the patient's thymus improves vaccination.

17. The method of claim 15 wherein the reactivation is induced prior to or right after the patient is initially exposed to an infecting agent.

18. The method of claim 15 wherein the reactivation is induced prior to or right after the patient is initially exposed to an infecting agent.

19. The method of claim 15 wherein reactivating the patient's thymus is accomplished through a disruption of sex steroid mediated signaling to the thymus.

20. The method of claim 15 wherein the patient is post-pubertal.

21. The method of claim 15 wherein the patient has or had a disease or a has or had a treatment of a disease that at least in part deactivated the patient's thymus.

22. The method of claim 21 wherein the disease is a cancer.

23. The method of claim 22 wherein the cancer is a prostate cancer.

24. The method of claim 21 wherein the treatment is a chemotherapeutic.

25. The method of claim 19 wherein the disruption of sex steroid mediated signaling is accomplished through inhibition of sex steroid production in the patient.

26. The method of claim 19 wherein disruption of sex steroid mediated signaling is accomplished through blocking of one or more sex steroid receptors within the patient's thymus.

27. The method of claim 19 wherein the method of disrupting the sex steroid mediated signaling to the thymus is through administration of one or more pharmaceuticals that can lower the concentration of sex steroids in a patient.

28. The method of claim 27 wherein the one or more pharmaceuticals is administered in a formulation including a pharmaceutically acceptable carrier suitable for oral, parenteral, subcutaneous, topical intravenous or intramuscular administration, or a combination thereof.

29. The method of claim 27 wherein the pharmaceuticals are selected from the group consisting of an LHRH analogs, anti-LHRH vaccines, anti-sex steroid vaccines and combinations thereof.

30. The method of claim 29 wherein the LHRH analog is selected from the group consisting of an LHRH analog, an LHRH agonist, an LHRH antagonist, an LHRH-R agonist, an LHRH-R antagonist, an anti-LHRH vaccine, an anti-sex steroid vaccine, anti-LHRH receptor antibodies, an anti-estrogen antibody, an anti-androgen antibody, passive anti-LHRH vaccines, active anti-LHRH vaccines and a combination thereof.

31. The method of claim 29 wherein the LHRH analog has been modified so as to have an increased half life *in vivo*.

32. The method of claim 30 wherein the LHRH-R agonist is selected from the group consisting of Buserelin, Cystorelin, Decapeptyl, Deslorelin, Gonadorelin,

Goserelin, Histrelin, Leuprolide, Leuprorelin, Lutrelin, Meterelin, Nafarelin, Triptorelin and combinations thereof.

33. The method of claim 30 wherein the LHRH-R antagonist is selected from the group consisting of Eulexin, Cetrorelix, Abarelix and combinations thereof.

34. The method of claim 30 wherein a LHRH-R antagonist is administered to the patient prior to delivery of a LHRH-R agonist.

35. The method of claim 30 wherein the LHRH-R agonist is a type of agonist that creates little or no spike in sex steroid production when administered *in vivo*.

36. The method of claim 19 further including the step of delivering one or more pharmaceuticals selected from the group consisting of a hormone, a cytokine, a growth factor, a steroid receptor modulator, a thymic specific steroid receptor modulator, an enhancing compound and a combination thereof.

37. The method of claim 29 wherein the LHRH analog is delivered in a formulation that will provide protection to a patient for at least one month.

38. The method of claim 29 wherein the LHRH analog is delivered in a formulation that will provide protection to a patient for a period of time equivalent in duration to a periodic epidemic.

39. The method of claim 29 wherein the LHRH analog is administered to the patient in a one-time dose.

40. The method of claim 27 wherein the formulation is redelivered to the patient at least every two months until a risk of infection decreases or disappears.

41. The method of claim 27 wherein the one or more pharmaceuticals is an LHRH analog having a dose between about 0.01 ug/kg and about 10 mg/kg.

42. The method of claim 41 wherein the dose is between about 0.01 mg/kg and about 5 mg/kg.

43. The method of claim 28 wherein the LHRH analog is a 22.5 mg depot injection of Leucrin or a 10.8 mg Zoladex implant.

44. The method of claim 15 including the step of delivering a suppressor of adrenal gland production of a sex steroid.

45. .The method of claim 15 including the step of delivering to the patient a cell selected from the group consisting of a hematopoietic stem cell (HSC), a genetically modified (GM) cell, an epithelial stem cell, and a combination thereof.

46. The method of claim 45 wherein the cells are delivered to the patient between about one to about three weeks after disruption of sex steroid mediated signaling to the thymus.

47. The method of claim 45 wherein the cells are delivered at a time the thymus begins to be reactivated.

48. The method of claim 15 including the step of administering an immunosuppressant to the patient.

49. The method of claim 48 wherein the immunosuppressant is selected from the group consisting of an anti-T cell antibody, a xeno anti-T cell globulin, a cyclosporin and a combination thereof.

50. The method of claim 49 wherein the xeno anti-T cell globulin is a dose of about 15 mg/kg of Atgam administered for a period of about 10 days and the cyclosporin is a dose of about 3 mg/kg cyclosporin A administered as a continuous infusion for about 3 to 4 weeks.

51. The method of claim 45 wherein the genetically modified cell has a resistance to a flu virus.